

Clinical Science

What stress coping strategies are surgeons relying upon during surgery?



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Abstract

BACKGROUND: The objective of this study was to determine sources of intraoperative stress, impact on surgical outcomes, coping strategies, and surgeon interest in stress management training.

METHODS: An anonymous survey was electronically distributed to surgeons at a tertiary care hospital. Respondents were asked to rate the perceived impact of 9 stressors on operative performance, identify stress coping strategies, list witnessed stress-related complications, and opine on the perceived need for stress management training.

RESULTS: Seventy-two responses were received (76% relative risk). Complex or rarely performed cases and poor assistance were associated with the highest stress, while personal life distractions were associated with the least. Importantly, 40% of surgeons indicated that they had witnessed an intraoperative complication directly related to surgeon stress. Respondents (82%) believed that formal stress management training is needed.

CONCLUSIONS: Several stressors affect surgical performance and contribute to complications. Surgeons use a variety of stress coping strategies. Formal stress management training is needed.

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A surgical career is among the most physically and psychologically demanding. In addition to acquiring large amounts of medical knowledge, surgeons must master increasingly difficult and constantly evolving surgical procedures; the safety of their patients depends on their maintaining attention on intricate technical details for

sustained periods of time.¹ These factors, among others, can contribute to excessive amounts of stress.

While limited amounts of acute stress may increase performance in an examination setting, excessive amounts of intraoperative stress can have disastrous effects on surgical performance and patient outcomes.² Excessive amounts of stress have been shown to negatively influence surgeons' fine motor skills, coordination and dexterity, emotional state, focus, teamwork, communication skills, and decision-making ability.³ However, little is known about the prevalence and breadth of stressors in the operating suite, how surgeons cope with these stressors, and

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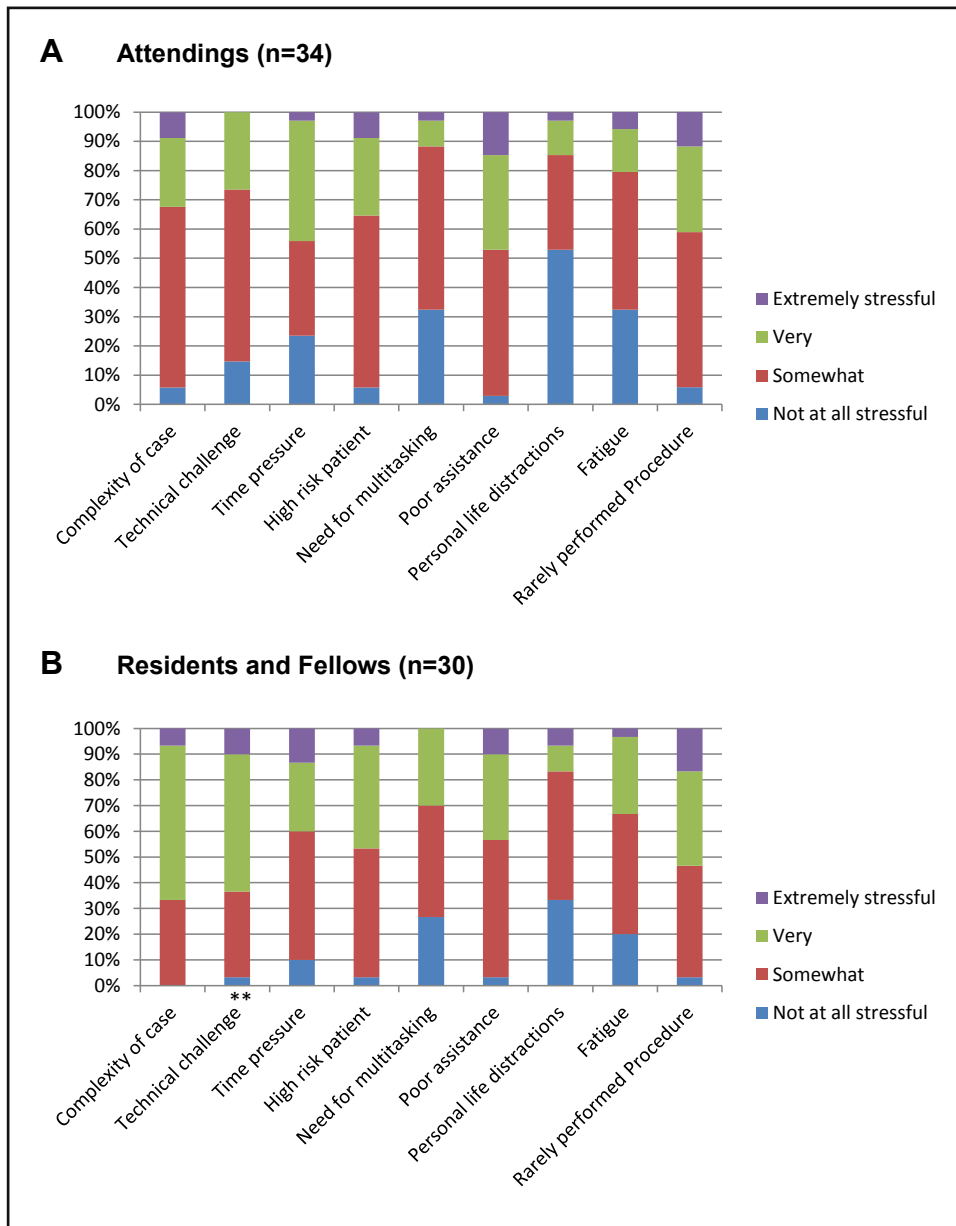


Figure 1 Stresseurs in the operating room. (A) Attendings (n = 34). (B) Residents and Fellows (n = 30). **Complexity of the case and technical challenge were perceived as statistically higher stress between groups.

the potential impact of stress management techniques on surgical outcomes.

Mental skills training is a prominent area of performance psychology. Elite-level athletes have been shown to gain a performance advantage by minimizing stress levels through focused mental skills training aimed at improving their ability to cope with stress.⁴ Stress management techniques have also shown positive results when applied to other high-pressure occupations including police special forces,⁵ and the Navy Sea, Air, and Land Teams.⁶ To apply similar stress coping and performance-enhancing techniques to surgical training, it is imperative to study and identify the sources of surgeons' stress, stress coping strategies used by surgeons, and the impact of surgeons' stress on patient outcomes. This information would inform the design of mental skills training

programs to help surgeons manage intraoperative stress more effectively. Some promising studies have already started to emerge in the surgical literature to this effect.^{7,8}

The objective of this study was to survey surgeons to determine (1) sources of intraoperative stress, (2) coping strategies used, (3) impact of stress on surgical outcomes, and (4) interest for formal training in stress management.

Methods

The study received Institutional Review Board approval. An anonymous survey was created by a research team

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